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EXAMINER
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DANIEL JR, WILLIE J

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

09/914,953

Applicant(s)

JUUTI ET AL.

Examiner

Willie J. Daniel, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This action is in response to applicant's RCE amendment filed on 27 December 2006.

**Claims 1-20** are now pending in the present application. This office action is made **Non-Final**.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 27 December 2006 has been entered.

#### ***Claim Objections***

3. **Claim 10** is objected to because of the following informalities:

- a. Claim 10 recites the limitation "...identity LAC) and..." in line(s) 10 of the claim.

The Examiner interprets as --identity LAC and-- and suggests replacing said limitation to help clarify the claim language.

Appropriate correction is required.

4. This list of examples is not intended to be exhaustive. The Examiner respectfully requests the applicant to review all claims and clarify the issues as listed above as well as any other issue(s) that are not listed.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

**Claims 1-7, 12, 14, and 16-18** are rejected under 35 U.S.C. 102(a) as being anticipated by **Salmela et al.** (hereinafter Salmela) (**WO 98/30056**).

Regarding **claim 1**, Salmela discloses a method for deciding whether a mobile station (MS) used by a subscriber is allowed to camp in a cell of a mobile communications system comprising location areas (LAs) each associated with a location area index (LAI) which reads on the claimed “respective Location Area Code (LAC)”, wherein within each location area, the mobile station (MS) may move without updating its location (see abstract; pg. 1, lines 4-6; pg. 8, lines 17-25; pg. pg. 4, lines 9-12; pg. 14, lines 22-25; Figs. 1), where the system provides restricting connection of a mobile station (MS) to a cell, the method comprising:

defining some of the location areas (LAs) to be localized service areas (LSAs - LSA1-3) which reads on the claimed “exclusive location areas” each associated with a respective LAC (e.g., LAI), an exclusive location area (LSA1) comprising special cells (C1-C3, C5, C11) which reads on the claimed “exclusive cells” for which a special service which reads on the claimed “exclusive service” condition is defined (see pg. 4, lines 1-12; pg. 5, lines 14-18; pg. 7, lines 26-28; pg. 8, lines 6-12; Figs. 1-2);

receiving, via a cell, a request for location update which initiates a location update procedure for updating the subscriber's location to a new location area (i.e., location area identifier/index - LAI) (see pg. 2, lines 9-17; pg. 2, line 35 - pg. 3, line 2; pg. 4, lines 23-24; pg. 4, line 31 - pg. 5, line 9; pg. 8, lines 13-16; pg. 9, lines 19-23; pg. 10, lines 25-29; pg. 11, lines 19-23; pg. 14, lines 21-25; Figs. 2-5 "message 21") and

includes a new LAC for the location area to which the subscriber would like to update (see pg. 8, lines 17-25; pg. 15, lines 14-24);

checking during the location update procedure whether the new location area (i.e., location area identifier/index - LAI) indicated by the LAC (e.g., location area identifier - LAI) is defined as an exclusive location area (LSAs - LSA1-3) (see pg. 5, lines 6-9; pg. 6, lines 12-19; pg. 8, lines 17-25; pg. 11, lines 23-26; pg. 12, lines 10-19; pg. 14, lines 26-31; pg. 15, lines 14-24); and

if the new location area (i.e., location area identifier - LAI) is an exclusive location area (LSAs - LSA1-3) (see pg. 12, line 28 - pg. 13, line 5; pg. 14, lines 28-31; pg. 15, lines 14-24),

- using the exclusive service condition of the cell (C1-C3, C5, C11) in determining whether or not the subscriber is allowed to camp (i.e., connect) in the cell (see pg. 14, lines 14-18; pg. 14, line 28 - pg. 15, line 3; pg. 15, lines 14-24; pg. 8, lines 6-12; Fig. 1-2),

- allowing the mobile station (MS) to camp (i.e., connect) in the cell by accepting the location update if the subscriber is allowed to camp (i.e., connect) in the cell (see pg. 13, lines 1-5; pg. 14, lines 14-18; pg. 14, line 35 - pg. 15, line 1; pg. 15, lines 14-24), and

- preventing (i.e., restricting) the mobile station (MS) from camping (i.e., connecting) in the cell by rejecting the location update if the subscriber is not allowed to camp (i.e., connect) in the cell (see pg. 13, lines 1-5; pg. 5, lines 14-18, 21-35; pg. 15, lines 1-34).

Regarding **claim 2**, Salmela discloses a method according to claim 1, the method further comprising maintaining information about location areas (e.g., LAI) that are defined as exclusive location areas (LSAs - LSA1-3) in a network element (e.g., database) configured to reject or accept location updates (see pg. 4, lines 18-22; pg. 5, lines 19-27; pg. 14, line 26 - pg. 15, line 4; pg. 15, line 34 - pg. 16, line 1; pg. 8, lines 17-25; pg. 15, lines 14-24).

Regarding **claim 3**, Salmela discloses a method according to claim 2, the method further comprising:

maintaining cell (C1-C3, C5, C11) information indicating whether a cell (C1-C3, C5, C11) is an exclusive cell (C1-C3, C5, C11) (see pg. 4, lines 18-22; pg. 5, lines 19-27; pg. 8, lines 6-30; pg. 11, lines 20-35; pg. 12, line 20 - pg. 13, line 5; pg. 13, lines 18-26; pg. 14, lines 28-35; pg. 15, lines 26-33; pg. 8, lines 6-12; Figs. 1-2), where the mobile station operates in location service areas (LSAs - LSA1-3) ; and

using said cell information to define whether the new location area is an exclusive location area (LSAs - LSA1-3) (see pg. 8, lines 6-30; pg. 11, lines 20-35; pg. 12, line 20 - pg. 13, line 5; pg. 13, lines 18-26; pg. 14, lines 28-35; pg. 15, lines 26-33; Figs. 1-2).

Regarding **claim 4**, Salmela discloses a method according to claim 1, the method further comprising:

receiving an indication (e.g., message 32) indicating whether the cell is an exclusive (i.e., special) cell during location update (see pg. 8, lines 20-30; pg. 9, lines 26-30; pg. 11, lines

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11-18, 23-35; Figs. 3A-B and 4B), where message 32 transmitted from the intelligent network to the visitor location register; and

deciding on the basis of the indication whether the location area of the cell is an exclusive location area (see pg. 5, lines 19-27; pg. pg. 12, line 20 - pg. 13, line 5; pg. 14, line 22 - pg. 15, line 33; Figs. 1 and 5).

Regarding **claim 5**, Salmela discloses a method according to claim 1, wherein the mobile communications system comprises local service areas (LSAs - LSA1-3) (see pg. 4, lines 1-12; pg. 7, lines 26-28; Fig. 1);

the exclusive cells (C1-C3, C5, C11) are exclusive access cells (see pg. 4, lines 1-15; pg. 5, lines 18-27; pg. 8, lines 6-9; pg. 14, line 14 - pg. 15, line 33), where only certain subscribers can connect to those cells; and

whether or not the subscriber is allowed to camp (e.g., connect) in the cell is determined by comparing local service area (LSAs - LSA1-3) information of the cell to the subscriber's local service area (LSAs - LSA1-3) information (see pg. 4, line 1-22; pg. 5, lines 14-27; pg. 14, line 21 - pg. 15, line 33).

Regarding **claim 6**, Salmela discloses a method according to claim 1, wherein the mobile communications system comprises local service areas (LSAs - LSA1-3) (see pg. 4, lines 1-12; pg. 7, lines 26-28; Fig. 1),

each associated with a respective Local Service Area identification (LSA-ID) (e.g., LSAs - LSA1-3) (see pg. 7, lines 26-28; Fig. 1);

the exclusive cells (C1-C3, C5, C11) are exclusive access cells (see pg. 4, lines 1-15; pg. 5, lines 18-27; pg. 8, lines 6-9; pg. 14, line 14 - pg. 15, line 33), where only certain subscribers connect (have access) to those cells;

whether or not the subscriber is allowed to camp (i.e., connect) in the cell is determined by comparing local service area (LSAs - LSA1-3) information, including a Local Service Area identification (LSA-ID) (e.g., LSAs - LSA1-3), of the cell to the subscriber's local service area (LSAs - LSA1-3) information (see pg. 4, lines 1-22; pg. 5, lines 14-27; pg. 7, lines 26-28; pg. 14, line 21 - pg. 15, line 33); and

the method further comprises:

defining location areas (LAI) so that when an exclusive access cell (e.g., C1) belongs to a location area (LAI), the other cells (e.g., C2 and C3) in that location area (LAI) are also exclusive cells (see pg. 4, lines 1-22; pg. 5, lines 14-27; pg. 8, lines 25-30; pg. 12, line 20 - pg. 13, line 5; pg. 14, line 26 - pg. 15, line 3; pg. 8, lines 17-25; pg. 15, lines 14-24; Fig. 1);

maintaining information about location areas (LAI) comprising exclusive cells (C1-C3, C5, C11) (see pg. 4, lines 18-22; pg. 5, lines 19-27; pg. 8, lines 14-30; pg. 11, lines 20-35; pg. 12, line 20 - pg. 13, line 5; pg. 13, lines 18-26; pg. 14, lines 28-35; pg. 15, lines 26-33; Fig. 1); and

using that information to decide whether the location area of the cell is an exclusive location area (LSAs - LSA1-3) (see pg. 5, lines 19-27; pg. 8, lines 14-30; pg. 11, lines 20-35; pg. 12, line 20 - pg. 13, line 5; pg. 13, lines 18-26; pg. 14, line 22 - pg. 15, line 33).

Regarding **claim 7**, Salmela discloses a method according to claim 5, further comprising receiving the location area identity (LAI) (e.g., LAI) of the cell, the local service



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area information (LSA-ID) (e.g., LAI, LSAs - LSA1-3) of the cell (CI) and the international mobile subscriber identity (IMSI) which reads on the claimed “subscriber's identification information” during the location update (see pg. 8, lines 17-30; pg. 12, line 28 - pg. 13, line 5; pg. 15, lines 14-24).

Regarding **claim 12**, Salmela discloses a network comprising:

exclusive cells (C1-C3, C5, C11) and other cells via which a mobile station may be connected to the network (see pg. 4, lines 1-12; pg. 5, lines 14-18; pg. 7, lines 26-28; Fig. 1),

location areas each identified by a Location Area Code (LAC) (e.g., LAI) defining groups of cells (see pg. 8, lines 17-25; pg. 15, lines 14-24; pg. 4, lines 1-12; pg. 5, lines 14-18; pg. 7, lines 26-28; pg. 8, lines 6-12; Figs. 1-2), and

at least one mobile station which is arranged, in response to a new location area (LAI), to send a location update request including the identity of the new location area LAC (e.g., LAI) and information (IMSI) about the subscriber using it (see pg. 2, lines 9-17; pg. 2, line 35 - pg. 3, line 2; pg. 4, lines 23-24; pg. 4, line 31 - pg. 5, line 9; pg. 8, lines 13-30; pg. 9, lines 19-23; pg. 10, lines 25-29; pg. 11, lines 19-23; pg. 12, line 28 - pg. 13, line 5; pg. 14, lines 21-25; Figs. 2-5 “message 21”),

wherein

at least one of the location areas each identified by the LAC (e.g., LAI) (LSAs - LSA1-3) is defined to be an exclusive location area (LSAs - LSA1-3) comprising at least one exclusive access cell (C1-C3, C5, C11) for which exclusive service condition is defined (see pg. 4, lines 1-15; pg. 5, lines 14-27; pg. 7, lines 26-28; pg. 8, lines 6-12; pg. 14, line 14 - pg. 15, line 33; Fig. 1), where only certain subscribers connect (have access) to those cells, and

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the network is arranged to access information about exclusive location areas (LSAs - LSA1-3) and, in response to a location update of a mobile station, to check whether the location area (i.e., LAI) in the location update and indicated by LAC (e.g., LAI) is defined as an exclusive location area (LSAs - LSA1-3) (see pg. 5, lines 6-9; pg. 6, lines 12-19; pg. 8, lines 6-12, 17-25; pg. 11, lines 23-26; pg. 12, lines 10-19; pg. 14, lines 26-31; pg. 15, lines 14-24; Fig. 1) and

if it is, to use the exclusive service condition of the cell to determine whether or not the subscriber is allowed to camp (i.e., connect) in the cell (see pg. 14, lines 14-18; pg. 14, line 28 - pg. 15, line 3; pg. 15, lines 14-24), and

to reject the location update if the subscriber is not allowed to camp (i.e., connect) in the cell (see pg. 13, lines 1-5; pg. 14, lines 14-18, 21-35; pg. 15, lines 1-34).

Regarding **claim 14**, Salmela discloses a network according to claim 12, wherein the network (i.e., system) comprises local service areas (LSAs - LSA1-3) each indicated by a Local Service Area identification (LSA-ID) (e.g., LSAs - LSA1-3) defining local services for subscribers via cells or a cell defined as belonging to a local service area LSA (LSAs - LSA1-3) (see pg. 4, lines 1-12; pg. 7, lines 26-28; Fig.1), and

the network is further arranged to receive information (e.g., LAI) on the local service area LSA (LSAs - LSA1-3) of the cell and to check whether the subscriber is allowed to camp (i.e., connect) in the cell by comparing the local service area (LSA-ID) (e.g., LSAs - LSA1-3) information of the cell to the subscriber's local service area (LSAs - LSA1-3) information (LSA-ID) (see pg. 4, lines 1-22; pg. 5, lines 14-27; pg. 14, line 21 - pg. 15, line 33).

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Regarding **claim 16**, Salmela discloses a network element (e.g., database) in a mobile communications system (e.g., network) taking part in location update procedures between the system and a mobile station, which system (i.e., network) comprises location areas each associated with a respective Location Area Code (LAC) (e.g., LAI, LSAs - LSA1-3), wherein within each location area the mobile station may move without updating its location (see pg. 4, lines 18-22; pg. 8, lines 17-25; pg. 15, lines 14-24; Fig. 1),

wherein

the network element (e.g., database) is arranged to store or to have access to information about location areas (e.g., LAI, LSAs - LSA1-3) defined as exclusive location areas (LSAs - LSA1-3) each associated with a respective LAC, an exclusive location area (LSAs - LSA1-3) comprising one or more exclusive access cells (C1-C3, C5, C11) for which an exclusive service condition is defined (see pg. 1, lines 4-6; pg. 4, lines 1-22; pg. 5, lines 14-27; pg. 7, lines 26-28; pg. 8, lines 6-12; pg. 14, line 14 - pg. 15, line 33; Fig. 1), where only certain subscribers connect (have access) to those cells, and,

in response to a location update to a cell indicated by the new LAC, to check whether the location area to which the location update is targeted is defined as an exclusive location area (LSAs - LSA1-3) (see pg. 5, lines 6-9; pg. 6, lines 12-19; pg. 8, lines 17-25; pg. 11, lines 23-26; pg. 12, lines 10-19; pg. 14, lines 26-31; pg. 15, lines 14-24) and

if it is, to use the exclusive service condition of the cell to check whether the subscriber is allowed to camp (e.g., connect) in the cell (see pg. 8, lines 6-12; pg. 12, line 28 - pg. 13, line 5; pg. 14, lines 14-18; pg. 14, line 28 - pg. 15, line 3; pg. 15, lines 14-24; Figs. 1-2), and

to reject the location update if the subscriber is not allowed to camp (e.g., connect) in the cell (see pg. 13, lines 1-5; pg. 14, lines 14-18, 21-35; pg. 15, lines 1-34; Fig. 1).

Regarding **claim 17**, Salmela<sup>o</sup> discloses a network element according to claim 16, wherein the mobile communications system further comprises local service areas (LSAs - LSA1-3) defining local services for subscribers via cells or a cell defined as belonging to a local service area (LSAs - LSA1-3) (see pg. 4, lines 1-12; pg. 7, line 26-28; Fig. 1), and

wherein the network element (e.g., database) is further arranged to receive information (e.g., LAI), in a Local Service Area identification (LSA-ID) on the local service area (LSAs - LSA1-3) of the cell and to check whether the subscriber is allowed to camp (e.g., connect) in the cell by comparing the local service area (LSAs - LSA1-3) information LSA-ID of the cell to the local service area (LSAs - LSA1-3) information LSA-ID of the subscriber (see pg. 4, lines 1-22; pg. 5, lines 14-27; pg. 14, line 21 - pg. 15, line 33).

Regarding **claim 18**, Salmela discloses a network element according to claim 16, wherein the information about location areas defined as exclusive location areas (LSAs - LSA1-3) comprises location areas (LSAs - LSA1-3) having at least one cell which is in the area of the network element (e.g., database) (see pg. 5, lines 19-27; pg. 15, lines 14-25), where location areas are in the vicinity of the HLR or VLR.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 8, 10-11, 13, 15, and 19-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Salmela et al.** (hereinafter Salmela) (**WO 98/30056**) in view of **Nordstrand (US 6,334,052 B1)** and **Seppanen et al.** (hereinafter Seppanen) (**US 5,903,832**).

Regarding **claim 8**, Salmela discloses a method according to claim 5, the method further comprising:

broadcasting the location area identity (LAI) (e.g., LAI, CI) of the cell and the local service area information (LSA-ID) (e.g., LAI, LSAs - LSA1-3) of the cell (see pg. 2, lines 6-11; pg. 4, lines 26-28; pg. 13, line 31 - pg. 14, line 5; pg. 8, lines 17-25; pg. 15, lines 14-24);

broadcasting an indication (e.g., message) of exclusive access (EA) indicating that the cell is an exclusive access cell on a broadcast channel (BCCH) when the cell is an exclusive access cell (see pg. 1, lines 14-18; pg. 4, lines 26-30; pg. 6, lines 7-20; pg. 12, line 29 - pg. 13, line 5; pg. 13, line 33 - pg. 14, line 5);

when receiving the new location area identity (LAI, CI) and said indication (e.g., message) in the broadcast in the mobile station (MS) (see pg. 1, lines 14-18; pg. 2, lines 6-11; pg. 4, lines 24-30; pg. 5, lines 10-18; pg. 6, lines 7-12; pg. 13, line 33 - pg. 14, line 5; pg. 8, lines 17-25; pg. 15, lines 14-24),

- comparing the local service area information (LSA-ID) (e.g., LAI, LSAs - LSA1-3) of the cell with the subscriber's local service area information (LSA-ID) (e.g., LAI, LSAs - LSA1-3) stored in the mobile station (MS) (see pg. 1, lines 14-18; pg. 2, lines 6-11; pg. 4, lines 24-30; pg. 5, lines 10-18; pg. 6, lines 7-12; pg. 13, line 33 - pg. 14, line 5). Salmela does not specifically disclose having the features if there is a match, camping in the cell by sending a location update request, or if there is no match, trying to find a suitable cell in which to camp and if a suitable cell is not found, entering a limited service state. However, the examiner maintains that the features if there is a match, camping in the cell by sending a location update request, or if there is no match, trying to find a suitable cell in which to camp was well known in the art, as taught by Nordstrand.

In the same field of endeavor, Nordstrand discloses the features comparing the local service area information (LSA-ID) (i.e., received cell-related information) of the cell with the subscriber's local service area information (LSA-ID) (i.e., predefined areas) stored in the mobile station (see abstract; col. 4, lines 6-9, 32-50; col. 6, lines 1-20, 28-45); and

if there is a match, camping in the cell by sending a location update request (see abstract; col. 4, lines 39-50; col. 5, lines 1-20, 28-59; col. 7, lines 14-29, 43-49; col. 8, lines 9-17), where the location update request is not explicitly mentioned but is inherent from the conventional techniques (see col. 11, lines 4-6), or

if there is no match, trying to find a suitable cell in which to camp (see col. 10, line 41 - col. 11, line 6; Fig. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela and Nordstrand to have the feature if there is a match, camping in the cell by sending a location update request, or if there is no match, trying to find a suitable cell in which to camp, in order to save radio and network resources, as taught by Nordstrand (see col. 7, lines 22-29; col. 8, lines 10-17). The combination of Salmela and Nordstrand does not specifically disclose having the feature if a suitable cell is not found, entering a limited service state. However, the examiner maintains that the feature if a suitable cell is not found, entering a limited service state was well known in the art, as taught by Seppanen.

In the same field of endeavor, Seppanen discloses the feature if a suitable cell is not found, entering a limited service state (see col. 10, lines 5-12), where a mobile terminal having enhanced system selection capability enters a limited service state if a suitable system cell for communication is not found.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela, Nordstrand, and Seppanen to have the feature if a suitable cell is not found, entering a limited service state, in order to save battery power and/or processing resources, as taught by Seppanen.

Regarding **claims 10 and 19**, Salmela discloses a method for deciding whether to trigger a location update by a mobile station used by a subscriber (see abstract; pg. 1, lines 4-6; pg. 4, lines 9-12; pg. 14, lines 22-25; Fig. 1), where restricting connection of a mobile station (MS), the method comprising:

defining location areas (LSAs - LSA1-3) each associated with a respective location area identity, Location Area Code (LAC) (e.g., LAI) so that all exclusive cells (e.g., C1-C3) are in exclusive location areas (LSA) comprising exclusive cells (e.g., C1-C3) for which an exclusive service condition is defined (see pg. 4, lines 1-22; pg. 5, lines 14-27; pg. 8, lines 6-12, 25-30; pg. 12, line 20 - pg. 13, line 5; pg. 14, line 26 - pg. 15, line 3; Figs. 1-2; pg. 15, lines 14-24);

broadcasting the location area identity (LAC) (e.g., LAI, CI) (see pg. 2, lines 6-11; pg. 4, lines 26-28; pg. 13, line 31 - pg. 14, line 5; pg. 8, lines 17-25; pg. 15, lines 14-24);

broadcasting an indication (e.g., message) of exclusive access (EA), indicating that a cell is an exclusive cell (e.g., C1-C3) that belongs to an exclusive location area (LSA) (see pg. 1, lines 14-18; pg. 4, lines 26-30; pg. 6, lines 7-20; pg. 12, line 29 - pg. 13, line 5; pg. 13, line 33 - pg. 14, line 5). Salmela does not specifically disclose having the features determining, in the mobile station, whether the mobile station is allowed to camp in the cell in response to receiving a new location area identity LAC and the indication EA indicating an exclusive cell in the broadcast; and if camping is allowed, sending a location update request, or if camping is not allowed, trying to find a suitable cell in which to camp and if a suitable cell is not found, entering a limited service state in the mobile station. However, the examiner maintains that the features determining, in the mobile station, whether the mobile station is allowed to camp in the cell in response to receiving a new location area identity LAC and the indication EA indicating an exclusive cell in the broadcast; and if camping is allowed, sending a location update request, or if camping is not allowed, trying to find a suitable cell in which to camp was well known in the art, as taught by Nordstrand.



In the same field of endeavor, Nordstrand discloses the features

determining, in the mobile station, whether the mobile station is allowed to camp in the cell in response to receiving a new location area identity LAC (e.g., cell-related information) and the indication EA (e.g., a message) indicating an exclusive cell in the broadcast (see abstract; col. 4, lines 6-12, 32-50; col. 5, lines 1-20, 47-59; col. 6, lines 1-20, 28-45; Figs. 4-5); and

if camping is allowed, sending a location update request (see abstract; col. 4, lines 39-50; col. 5, lines 1-20, 28-59; col. 7, lines 14-29, 43-49; col. 8, lines 9-17), where the location update request is not explicitly mentioned but is inherent from the conventional techniques (see col. 11, lines 4-6), or

if camping is not allowed, trying to find a suitable cell in which to camp (see col. 10, line 41 - col. 11, line 6; Fig. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela and Nordstrand to have the features determining, in the mobile station, whether the mobile station is allowed to camp in the cell in response to receiving a new location area identity LAC and the indication EA indicating an exclusive cell in the broadcast; and if camping is allowed, sending a location update request, or if camping is not allowed, trying to find a suitable cell in which to camp, in order to save radio and network resources, as taught by Nordstrand (see col. 7, lines 22-29; col. 8, lines 10-17). The combination of Salmela and Nordstrand does not specifically disclose having the feature if a suitable cell is not found, entering a limited service state in the mobile station. However, the examiner maintains that the feature if a suitable cell is not

found, entering a limited service state in the mobile station was well known in the art, as taught by Seppanen.

In the same field of endeavor, Seppanen discloses the feature if a suitable cell is not found, entering a limited service state in the mobile station (see col. 10, lines 5-12), where a mobile terminal having enhanced system selection capability enters a limited service state if a suitable system cell for communication is not found.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela, Nordstrand, and Seppanen to have the feature if a suitable cell is not found, entering a limited service state in the mobile station, in order to save battery power and/or processing resources, as taught by Seppanen.

Regarding **claims 11 and 20**, Salmela discloses a method according to claim 10, wherein

the mobile communications system (i.e., network) comprises local service areas (LSAs - LSA1-3) (see pg. 4, lines 1-12; pr. 7, lines 26-28; Fig. 1),

each indicated by a Local Service Area identification (LSA-ID) (e.g., LSAs - LSA1-3) (see pg. 7, lines 26-28; Fig. 1);

the exclusive cells (C1-C3, C5, C11) are exclusive access cells (see pg. 4, lines 1-15; pg. 5, lines 18-27; pg. 8, lines 6-9; pg. 14, line 14 - pg. 15, line 33), where only certain subscribers connect (have access) to those cells; and

the method further comprises,

broadcasting local service area information (e.g., LSAs - LSA1-3, LAI) including the LSA-ID (see pg. 2, lines 6-11; pg. 4, lines 26-28; pg. 13, line 31 - pg. 14, line 5);

comparing the broadcast local service area information (e.g., LSAs - LSA1-3, LAI) of the cell with the subscriber's local service area information (LSA-ID) in the mobile station (MS) in response to receiving a new location area identity LAC (LAI, CI) and the indication EA (e.g., message) indicating an exclusive access cell in the broadcast (see pg. 1, lines 14-18; pg. 2, lines 6-11; pg. 4, lines 24-30; pg. 5, lines 10-18; pg. 6, lines 7-12; pg. 13, line 33 - pg. 14, line 5). Salmela does not specifically disclose having the features if there is a match, sending a location update request, or if there is no match, trying to find a suitable cell in which to camp and if a suitable cell is not found, entering a limited service state. However, the examiner maintains that the features if there is a match, sending a location update request, or if there is no match, trying to find a suitable cell in which to camp was well known in the art, as taught by Nordstrand.

In the same field of endeavor, Nordstrand discloses the features if there is a match, sending a location update request (see abstract; col. 4, lines 39-50; col. 5, lines 1-20, 28-59; col. 7, lines 14-29, 43-49; col. 8, lines 9-17), where the location update request is not explicitly mentioned but is inherent from the conventional techniques (see col. 11, lines 4-6), or

if there is no match, trying to find a suitable cell in which to camp (see col. 10, line 41 - col. 11, line 6; Fig. 4); and

comparing the local service area information (i.e., received cell-related information) of the cell with the subscriber's local service area information (i.e., predefined areas) stored in the mobile station in response to receiving a new location area identity (i.e., cell-related information) and an indication (e.g., message) indicating an exclusive access cell in the

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broadcast (see abstract; col. 4, lines 6-12, 32-50; col. 5, lines 1-20, 47-59; col. 6, lines 1-20, 28-45; Figs. 4-5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela and Nordstrand to have the feature if there is a match, sending a location update request, or if there is no match, trying to find a suitable cell in which to camp, in order to save radio and network resources, as taught by Nordstrand (see col. 7, lines 22-29; col. 8, lines 10-17). The combination of Salmela and Nordstrand does not specifically disclose having the feature if a suitable cell is not found, entering a limited service state. However, the examiner maintains that the feature if a suitable cell is not found, entering a limited service state was well known in the art, as taught by Seppanen.

In the same field of endeavor, Seppanen discloses the feature if a suitable cell is not found, entering a limited service state (see col. 10, lines 5-12), where a mobile terminal having enhanced system selection capability enters a limited service state if a suitable system cell for communication is not found.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela, Nordstrand, and Seppanen to have the feature if a suitable cell is not found, entering a limited service state, in order to save battery power and/or processing resources, as taught by Seppanen.

Regarding **claim 13**, Salmela discloses a network according to claim 12, wherein the network is arranged to broadcast the location area identity (LAC) (e.g., LAI) (CI) of the cell and an indication (e.g., message) that the cell is an exclusive cell EA when the cell

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belongs to an exclusive location area (LSAs - LSA1-3) (see pg. 1, lines 14-18; pg. 2, lines 6-11; pg. 4, lines 26-28; pg. 6, lines 7-20; pg. 12, line 29 - pg. 13, line 5; pg. 13, line 31 - pg. 14, line 5; pg. 8, lines 17-25; pg. 15, lines 14-24). Salmela does not specifically disclose having the features the mobile station is arranged, in response to receiving a new location area identity LAC and said indication EA, to determine whether the mobile station is allowed to camp in the cell, and if it is allowed, to send a location update request to the network, or if it is not allowed, to try to find a suitable cell in which to camp and if a suitable cell is not found, to enter a limited service state. However, the examiner maintains that the features the mobile station is arranged, in response to receiving a new location area identity LAC and said indication EA, to determine whether the mobile station is allowed to camp in the cell, and if it is allowed, to send a location update request to the network, or if it is not allowed, to try to find a suitable cell in which to camp was well known in the art, as taught by Nordstrand.

In the same field of endeavor, Nordstrand discloses the features

the mobile station is arranged, in response to receiving a new location area identity LAC (e.g., cell-related information) and said indication EA (e.g., message), to determine whether the mobile station is allowed to camp in the cell (see abstract; col. 4, lines 39-50; col. 5, lines 1-20, 28-59; col. 7, lines 14-29, 43-49; col. 8, lines 9-17), where the location update request is not explicitly mentioned but is inherent from the conventional techniques (see col. 11, lines 4-6), and

if it is allowed, to send a location update request to the network (see abstract; col. 4, lines 6-12, 32-50; col. 5, lines 1-20, 28-59; col. 6, lines 1-20, 28-45; Figs. 4-5), or

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if it is not allowed, to try to find a suitable cell in which to camp (see col. 10, line 41 - col. 11, line 6; Fig. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela and Nordstrand to have the features the mobile station is arranged, in response to receiving a new location area identity LAC and said indication EA, to determine whether the mobile station is allowed to camp in the cell, and if it is allowed, to send a location update request to the network, or if it is not allowed, to try to find a suitable cell in which to camp, in order to save radio and network resources, as taught by Nordstrand (see col. 7, lines 22-29; col. 8, lines 10-17). The combination of Salmela and Nordstrand does not specifically disclose having the feature if a suitable cell is not found, to enter a limited service state. However, the examiner maintains that the feature if a suitable cell is not found, to enter a limited service state was well known in the art, as taught by Seppanen.

In the same field of endeavor, Seppanen discloses the feature if a suitable cell is not found, to enter a limited service state (see col. 10, lines 5-12), where a mobile terminal having enhanced system selection capability enters a limited service state if a suitable system cell for communication is not found.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela, Nordstrand, and Seppanen to have the feature if a suitable cell is not found, to enter a limited service state, in order to save battery power and/or processing resources, as taught by Seppanen.

Regarding **claim 15**, Salmela discloses a network according to claim 12, wherein

the network is arranged to broadcast the location area identity (CI) of the cell, the local service area information (LAI) of the cell (see pg. 2, lines 6-11; pg. 4, lines 26-28; pg. 13, line 31 - pg. 14, line 5), and an indication (e.g., a message) that the cell is an exclusive cell when the cell is an exclusive access area (see pg. 1, lines 14-18; pg. 4, lines 26-30; pg. 6, lines 7-20; pg. 12, line 29 - pg. 13, line 5; pg. 13, line 33 - pg. 14, line 5).

the mobile station is arranged, in response to receiving a new location area identity (CI) and said indication (e.g., a message), to compare the broadcast local service area information (LAI) of the cell with the subscriber's local service area information (see pg. 1, lines 14-18; pg. 2, lines 6-11; pg. 4, lines 24-30; pg. 5, lines 10-18; pg. 6, lines 7-12; pg. 13, line 33 - pg. 14, line 5). Salmela does not specifically disclose having the features the mobile station is arranged, in response to receiving a new location area identity and said indication, to compare the broadcast local service area information of the cell with the subscriber's local service area information, and if there is a match, to send a location update request to the network, or if there is no match, to try to find a suitable cell in which to camp and if a suitable cell is not found, to enter a limited service state. However, the examiner maintains that the features the mobile station is arranged, in response to receiving a new location area identity and said indication, to compare the broadcast local service area information of the cell with the subscriber's local service area information, and if there is a match, to send a location update request to the network, or if there is no match, to try to find a suitable cell in which to camp was well known in the art, as taught by Nordstrand.

In the same field of endeavor, Nordstrand discloses the features

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the mobile station is arranged, to compare the broadcast local service area information (e.g., cell-related information) of the cell with the subscriber's local service area information (e.g., predefined areas) (see abstract; col. 4, lines 6-9, 32-50; col. 6, lines 1-20, 28-45), and if there is match, to send a location update request to the network (see abstract; col. 4, lines 39-50; col. 5, lines 1-20, 28-59; col. 7, lines 14-29, 43-49; col. 8, lines 9-17), where the location update request is not explicitly mentioned but is inherent from the conventional techniques (see col. 11, lines 4-6), or

if there is no match, to try to find a suitable cell in which to camp (see col. 10, line 41 - col. 11, line 6; Fig. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela and Nordstrand to have the features the mobile station is arranged, in response to receiving a new location area identity and said indication, to compare the broadcast local service area information of the cell with the subscriber's local service area information, and if there is a match, to send a location update request to the network, or if there is no match, to try to find a suitable cell in which to camp, in order to save radio and network resources, as taught by Nordstrand (see col. 7, lines 22-29; col. 8, lines 10-17). The combination of Salmela and Nordstrand does not specifically disclose having the feature if a suitable cell is not found, to enter a limited service state. However, the examiner maintains that the feature if a suitable cell is not found, to enter a limited service state was well known in the art, as taught by Seppanen.

In the same field of endeavor, Seppanen discloses the feature if a suitable cell is not found, to enter a limited service state (see col. 10, lines 5-12), where a mobile terminal



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having enhanced system selection capability enters a limited service state if a suitable system cell for communication is not found.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Salmela, Nordstrand, and Seppanen to have the feature if a suitable cell is not found, to enter a limited service state, in order to save battery power and/or processing resources, as taught by Seppanen.

**Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Salmela et al.** (hereinafter Salmela) (**WO 98/30056**) in view of well known prior art (**MPEP 2144.03**).

Regarding **claim 9**, Salmela discloses every limitation claimed as applied above in claim 1. Salmela does not specifically disclose having the feature further comprising rejecting the location update with the cause "roaming not allowed in this location area". However, the examiner takes official notice of the fact that it was well known in the art to have the feature further comprising rejecting the location update with the cause "roaming not allowed in this location area".

Nonetheless, the Examiner takes Official Notice that it is notoriously well known in the art to reject a location update with the cause of "roaming not allowed" for purposes of, for example identifying the reason for the rejection in the system.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Salmela by specifically having the feature further comprising rejecting the location update with the cause "roaming not allowed in this location

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area", as well known in the art, in order to, for example, identifying the reason for the rejection in the system.

**Claims 19-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nordstrand (US 6,334,052 B1)** in view of **Seppanen et al.** (hereinafter Seppanen) (**US 5,903,832**).

Regarding **claim 19**, Nordstrand discloses a mobile station which supports cell service definitions in a mobile communications system comprising location areas each associated with a respective Location Area Code (LAC), wherein within each location area the mobile station may move without updating its location, the mobile station being arranged to receive broadcast information about a location area of the cell (i.e., cell-related information), the information including the LAC of the cell (see abstract; col. 4, lines 6-9, 18-21, 43-54; col. 5, lines 6-16, 27-46), and,

in response to receiving in the broadcast a new location area (LAC) (i.e., new cell identifier) and an indication indicating that the cell belongs to a location area defined to be an exclusive location area comprising exclusive cells (see abstract; col. 4, line 39 - col. 5, line 20; col. 5, lines 27-59; col. 10, lines 4-18), where the location update request is not explicitly mentioned but is inherent from the conventional techniques (see col. 11, lines 4-6)

for which an exclusive service condition is defined, to use this exclusive service condition to determine whether or not the subscriber is allowed to camp in the cell (see abstract; Figs. 3-5), and

if the mobile station is allowed to camp in the cell, to send a location update request to the system (see abstract; col. 4, lines 39-50; col. 5, lines 1-20, 28-59; col. 7, lines 14-29, 43-

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49; col. 8, lines 9-17), where the location update request is not explicitly mentioned but is inherent from the conventional techniques (see col. 11, lines 4-6), or

if the mobile station is not allowed to camp in the cell, to try to find a suitable cell in which to camp (see col. 10, line 41 - col. 11, line 6; Fig. 4). Nordstrand does not specifically disclose having the feature if a suitable cell is not found, to enter a limited service state. However, the examiner maintains that the feature if a suitable cell is not found, to enter a limited service state was well known in the art, as taught by Seppanen.

In the same field of endeavor, Seppanen discloses the feature if a suitable cell is not found, to enter a limited service state (see col. 10, lines 5-12), where a mobile terminal having enhanced system selection capability enters a limited service state if a suitable system cell for communication is not found.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Nordstrand and Seppanen to have the feature if a suitable cell is not found, to enter a limited service state, in order to save battery power and/or processing resources, as taught by Seppanen.

Regarding **claim 20**, Nordstrand discloses a mobile station according to claim 19, wherein the mobile communications system further comprises local service areas, each indicated by a Local Service Area identification (LSA-ID), the local service areas supporting local service area definitions (e.g., areas with different tariff classes) (see col. 4, lines 18-21), where microcells (101-103) serve employees of a particular company (see col. 8, lines 36-39; Fig. 1), wherein

the cell service definitions supported by the mobile station comprise local service area definitions (e.g., areas with different tariff classes), each indicated by an LSA-ID, (see abstract; col. 4, lines 6-14, 18-21, 61-67; col. 5, lines 47-59; col. 7, lines 30-37), and

the mobile station is arranged to receive broadcast information about local service areas of a cell (i.e., cell-related information) including the LSA-IDs of the cell and to perform the determining by comparing the local service area information of the cell (i.e., cell-related information) with the subscriber's local service area information LSA-ID in response to receiving in the broadcast a new location area LAC (i.e., new cell identifier) and an indication EA indicating that the cell belongs to a location area defined to be an exclusive location area comprising exclusive access cells (see abstract; col. 4, line 39 - col. 5, line 20; col. 5, lines 27-59; col. 10, lines 4-18) and

if there is a match, to send a location update request to the system (see abstract; col. 4, lines 39-50; col. 5, lines 1-20, 28-59; col. 7, lines 14-29, 43-49; col. 8, lines 9-17), where the location update request is not explicitly mentioned but is inherent from the conventional techniques (see col. 11, lines 4-6), or

if there is no match, to try to find a suitable cell in which to camp (see col. 10, line 41 - col. 11, line 6; Fig. 4). Nordstrand does not specifically disclose having the feature if a suitable cell is not found, to enter a limited service state. However, the examiner maintains that the feature if a suitable cell is not found, to enter a limited service state was well known in the art, as taught by Seppanen.

In the same field of endeavor, Seppanen discloses the feature if a suitable cell is not found, to enter a limited service state (see col. 10, lines 5-12), where a mobile terminal

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having enhanced system selection capability enters a limited service state if a suitable system cell for communication is not found.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Nordstrand and Seppanen to have the feature if a suitable cell is not found, to enter a limited service state, in order to save battery power and/or processing resources, as taught by Seppanen.

***Response to Arguments***

7. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection necessitated by the new limitations.

In response to applicant's arguments, the Examiner respectfully disagrees as the applied reference(s) provide more than adequate support and to further clarify (see the above claims for relevant citations).

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (571) 272-7907. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on

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access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WJD,JR/

WJD,JR  
22 February 2007



CHARLES APPIAH  
PRIMARY EXAMINER